

NWB Annual Report

Year being reported: 2011 ▼

License No: 2BE-GEO1015 Issued Date: June 9, 2010
Expiry Date: June 30, 2015

Project Name: Back River Project - George

Licensee: Sabina Gold & Silver Corp.

Mailing Address: 930 West 1st Street, Suite 202
North Vancouver, BC V7P 3N4

Name of Company filing Annual Report (if different from Name of Licensee please clarify relationship between the two entities, if applicable):

General Background Information on the Project (*optional):

The George Project is located approximately 100 km south of the hamlet of Bathurst Inlet, with the camp located at 65°55'00" N, 107°27'00" W.

Licence Requirements: the licensee must provide the following information in accordance with

Part B ▼ Item 1 ▼

A summary report of water use and waste disposal activities, including, but not limited to: methods of obtaining water; sewage and greywater management; drill waste management; solid and hazardous waste management.

Water Source(s):	George Lake for camp and domestic use; lakes proximal to drilling	
Water Quantity:	3 m3/day	Quantity Allowable Domestic (cu.m)
	2 m3/day	Actual Quantity Used Domestic (cu.m)
	140 m3/day	Quantity Allowable Drilling (cu.m)
	36 m3/day	Total Quantity Used Drilling (cu.m)

Waste Management and/or Disposal

- ☒ Solid Waste Disposal
☒ Sewage
☒ Drill Waste
☒ Greywater
☒ Hazardous
☐ Other:

Additional Details:

Refer to water use tracking figure and discussion included in Appendix A.

A list of unauthorized discharges and a summary of follow-up actions taken.

Spill No.: (as reported to the Spill Hot-line)
Date of Spill:
Date of Notification to an Inspector:
Additional Details: (impacts to water, mitigation measures, short/long term monitoring, etc)

Revisions to the Spill Contingency Plan

Other: (see additional details) ▼

Additional Details:

Comprehensive Spill Contingency Plan submitted March, 2012.

Revisions to the Abandonment and Restoration Plan

Other: (see additional details) ▼

Additional Details:

Updated Abandonment and Restoration Plan submitted March, 2012.

Progressive Reclamation Work Undertaken

Additional Details (i.e., work completed and future works proposed)

A number of fuel drums of mixed contents, some of which date back to 2005, are stored on the property. Many of the fuels have passed their certified expiry date and can no longer be reliably used for their intended purpose. In 2010, some of this fuel was transferred into newer drums and in 2011 all of this fuel was either removed from the property for proper disposal or transported to Goose for use as fuel in the incinerator and waste oil heater in the maintenance garage.

Much of the material from the previous drill contractor including old drill rods, scrap steel and salt was shipped off site and the laydown area was re-organized. Additional drums, drill rods, hoses and garbage located outside camp was brought to George camp, secured and will be removed to Yellowknife during the 2012 program.

Sabina also completed destruction of the historical camp buildings in June 2011 and renovated the existing ATCO trailers into a kitchen/dining room and dry facilities.

Results of the Monitoring Program including:

The GPS Co-ordinates (in degrees, minutes and seconds of latitude and longitude) of each location where sources of water are utilized;

Details attached ▼

Additional Details:

Please see Appendix B.

The GPS Co-ordinates (in degrees, minutes and seconds of latitude and longitude) of each location where wastes associated with the licence are deposited;

Details attached

Additional Details:

Please see Appendix B.

Results of any additional sampling and/or analysis that was requested by an Inspector

Additional sampling requested by an Inspector or the Board (See below)

Additional Details: (date of request, analysis of results, data attached, etc)

July 9-10, AANDC Water Resources inspection. Ian Rumboldt, Water Resources Officer, completed an inspection of Back River and Hackett River Projects. The George camp required some remedial attention in the following areas; most of this work was completed prior to camp closing:

- A sump needs to be dug behind the kitchen -lined with sand / gravel to trap coarse solids in greywater; to be addressed during the 2012 program.
- Fuel storage - keep more than 30m from watermark and in secondary containment.

During the AANDC inspection, a light brown residue was evident measuring ~6m long x 3m wide located immediately south of, and down the bank from, the bulk tank. Sabina secured the area, collected water samples and photographed the area within 2 days of the inspection. At that time the brown residue was gone, field observations did not indicate a sheen or petroleum product smell, and analysis did not indicate an unusual water quality. The results and observations are inconclusive of what the material may have been and the area will be revisited during the 2012 program.

Any other details on water use or waste disposal requested by the Board by November 1 of the year being reported.

No additional sampling requested by an Inspector or the Board

Additional Details: (Attached or provided below)

Any responses or follow-up actions on inspection/compliance reports

No inspection and/or compliance report issued by INAC



Additional Details: (Dates of Report, Follow-up by the Licensee)

If a report is issued, it will be appended to this report as an addendum.

Any additional comments or information for the Board to consider

Date Submitted:

Submitted/Prepared by:

Contact Information:

Tel:

Fax:

email:

APPENDIX A

Water Volume Used

Camp Water Use

Water used in the camp is taken from George Lake with the water source adjacent to the dock, approximately 30 feet offshore in 6-8 feet of water. The intake hose is equipped with a screen to prevent entrapment of fish. Drinking water is pumped into three (3) 250 gal holding tanks located in the dry facilities. Any larger particles will settle to the bottom of the pool. Filtration is then used to remove smaller suspended material. Final treatment consists of UV and chlorination.

The holding tanks for camp water will store up to 3 m³ of water. The tanks are normally filled on a daily basis (sometimes every other day), though the entire tank system is not normally drawn down.

Up to 1m³ is stored in a plastic tank in the core processing facility at George Lake camp for on-demand use with the core splitting saws. Refilling of this tank is anticipated to occur 1-2 times per week when the saws are in use.

Pacto type toilets were used to collect sewage and transported to Goose camp for incineration.

Greywater from the kitchen and dry facilities is plumbed to a common line which discharges behind the facilities into a sediment filled trench. The discharge area is lined with stones to disrupt the flow of water and allow larger particles to come out of suspension, as well as to disperse the flow of water and help alleviate erosion of the topsoil. The greywater percolates into the ground after leaving the discharge point.

Camp Associated Solid Waste Disposal Activities

Solid waste in camp is separated at source and transported to Goose camp for inclusion in its waste management streams. Burnable solid waste consisting mainly of paper, food scraps, small wood pieces and plastic packaging was incinerated at Goose camp in a diesel fuel, dual stage forced air commercial incinerator.

Tin cans, aerosol cans, glass containers and other non-burnable trash produced by camp operations were flown out to Yellowknife for disposal in the Yellowknife dump. Aluminum cans, plastic water bottles and Gatorade bottles were separated and sent back to Yellowknife for recycling.

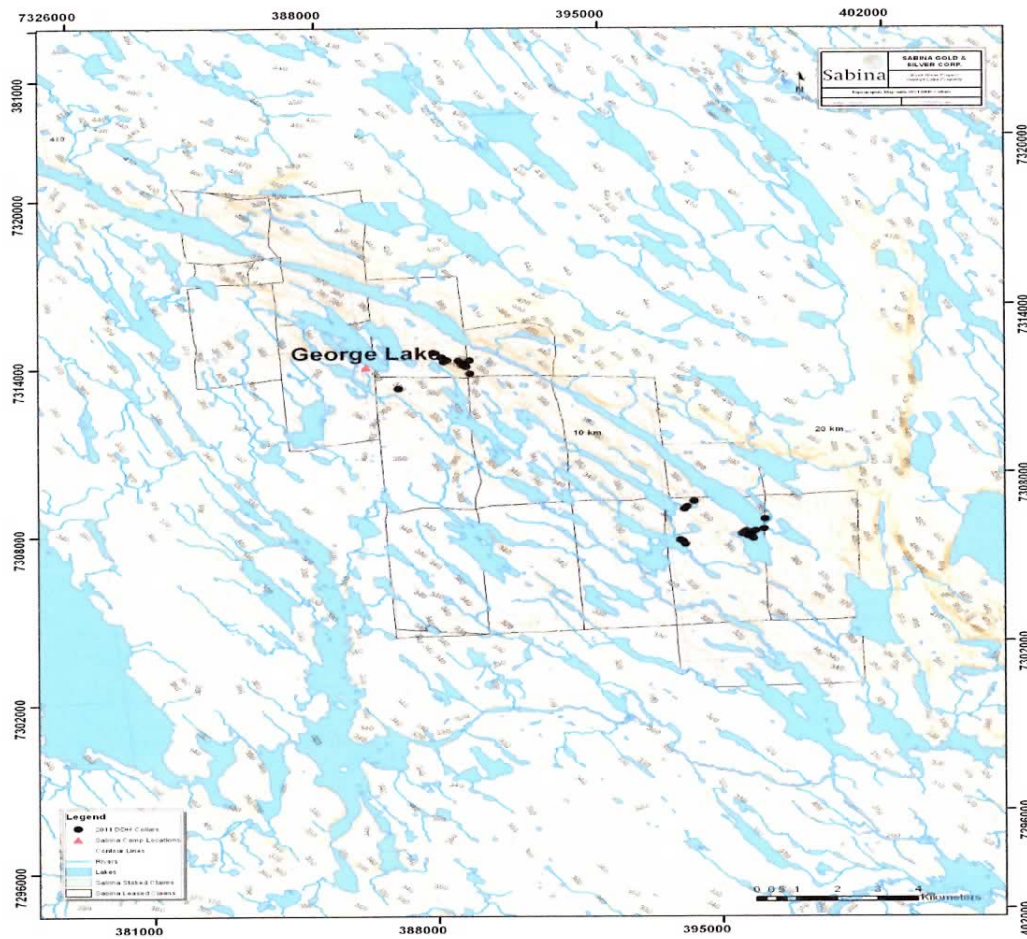
Sabina contracted transport company (KBL Environmental Ltd.) to ship the drums of solid waste to the E.I.L. Environmental facility for disposal, including empty fuel drums, which are crushed on site at Goose Lake.

Drilling Associated Water Use

The drills in service during 2011 were supplied by helicopter and equipped with portable water pumps, equipped with secondary containment drip pans. The intake hose for each of the pumps was equipped with a screen. A pressure hose leading from the pump to the drill supplied water.

The pumps for the drills would operate continuously as long as the drills were drilling, but were shut down for drill moves. Drill moves typically took about 12 – 24 hours depending on weather and the time of day that the drill was shut down. During drilling, the water was stored in a 500-gallon, trough-type surge tank at the drill where it was then pressurized by a second pump and pumped down the drill hole to cool the drill bit and remove cuttings. Drill water was re-circulated through the hole and new water was added on an as-needed basis to replace any lost through the sludge separation process and to fill the drill hole. Most of the water diverted from the lake and pumped to the drill was not used at the drill site and was allowed to return to the lake; or for land based drilling, the water was allowed to percolate into the soil.

Sludge from the drills was pumped into fibre mega bags, which allowed the water to percolate out while retaining the cuttings. The bags were then flown to the trench adjacent to camp.



2011 diamond drill locations, George Lake area.

Drilling Associated Solid Waste Disposal Activities

Drilling-associated solid waste produced in 2011 consisted of broken or damaged drill steel, various broken, used or worn out pieces of equipment, plastic lubricant containers, plastic bags, wood scraps, greasy burlap and absorbent material. The burnable waste was incinerated in Goose camp and the metal items were flown out to Yellowknife for disposal or recycling. Metal waste and trash encountered at historic drill sites was gathered up and moved back to camp where it was subsequently flown out to Yellowknife for disposal or recycling.

Hazardous Waste Management

The primary hazardous wastes generated and managed at George Camp are petroleum-based fuel products; diesel, Jet-B, gasoline, engine oil and propane. Other hazardous wastes consist of used aerosol paint cans and expired dry-cell batteries.

Much of the hydrocarbon waste generated on site was retained for use in the waste oil furnace installed to heat the Quonset, which cuts down on the volume to be shipped offsite and sent to a hazardous waste facility. Additional waste hydrocarbon products were stored in empty 205 L drums, with the tops sealed with plastic, in secondary containment berms pending backhaul.

Empty propane tanks were returned to Yellowknife for recycling and re-use as they became available through consumption.

Used alkaline batteries and empty paint and aerosol spray cans were placed with the unburnable kitchen waste and double-bagged in plastic garbage bags and flown back to Yellowknife for disposal.

The secondary containment berms used with primary fuel and salt supplies or waste material have generally proven to be an effective measure to safeguard impacts to freshwater sources as they are quickly and easily set up where needed. Snowmelt and rainwater collection can be easily managed with periodic inspections and appropriate use of the rain drains and a water transfer pump, should pooling of snowmelt or rainwater occur.

Progressive Reclamation Activities

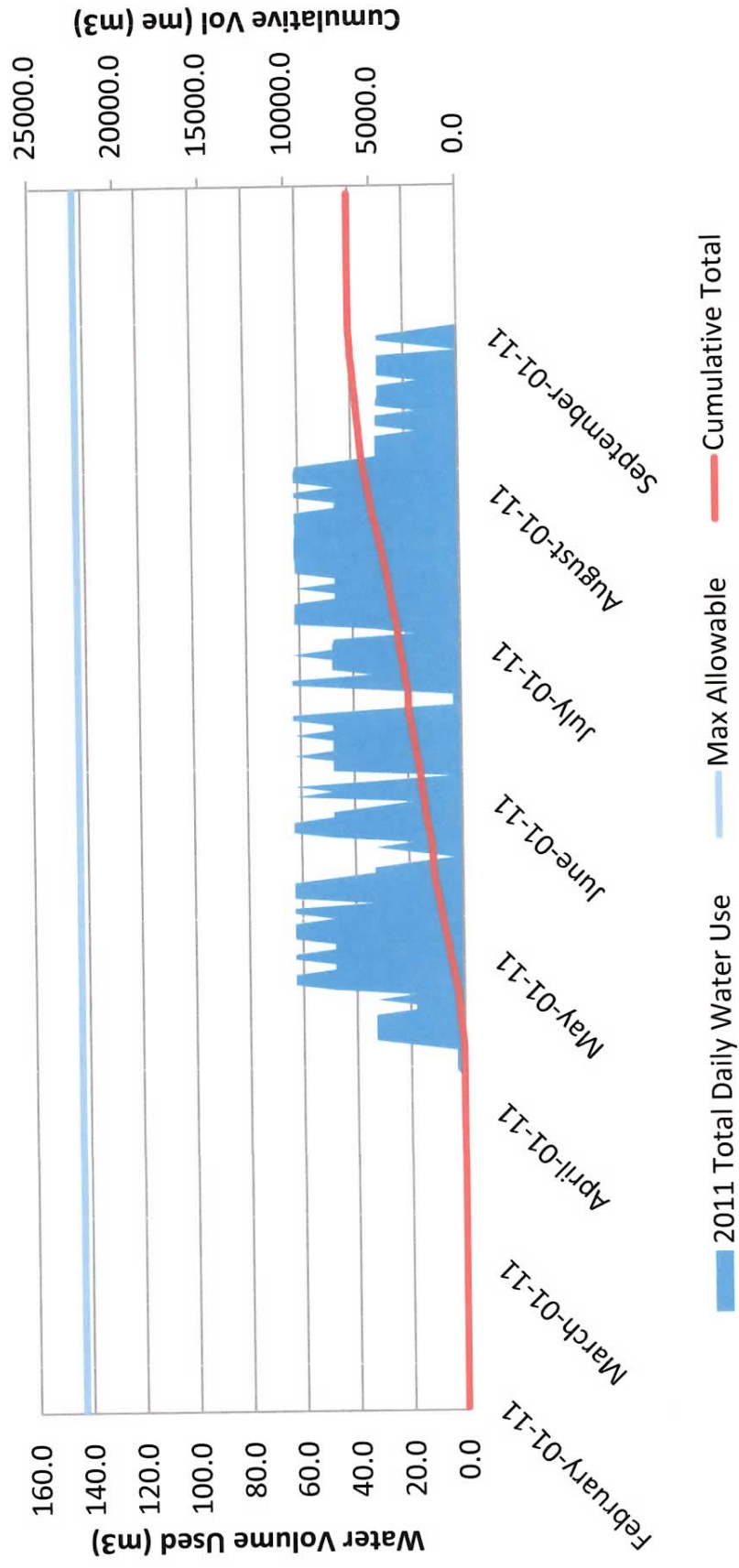
The remaining fuel drums of mixed contents, some of which date back to 2005, were removed over the 2012 program for proper disposal or transported to Goose for use as fuel in the incinerator and waste oil heater in the maintenance garage. Also, much of the material from the previous drill contractor including old drill rods, scrap steel and salt was shipped off site and the laydown area was re-organized. Additional drums, drill rods, hoses and garbage located outside camp was brought to George camp, secured and will be removed to Yellowknife during the 2012 program.

Sabina also completed destruction of the historical camp buildings in June 2011 and renovated the existing ATCO trailers into a kitchen/dining room and dry facilities.



Aerial image of George camp. Photograph taken September, 2011.

2011 Water Use at Back River Project - GEORGE



Water Use Fees Calculator:**Northwest Territories Waters Regulations s. 9(1)(a), (b), and (c)****AGRICULTURAL UNDERTAKING**Enter the volume of authorized water use (m³/year)

Calculated Annual Water Use Fee (\$)

INDUSTRIAL, MINING and MILLING or MISCELLANEOUS UNDERTAKINGEnter the volume of authorized water use (m³/day)Enter the volume of authorized water use (m³/year)

Calculated Annual Water Use Fee (\$)

POWER UNDERTAKING

Identify the class of Power Undertaking (0, 1, 2, 3, 4, 5, 6)

For class 6 Power Undertakings enter the authorized output (kW)

Calculated Annual Water Use Fee (\$)

APPENDIX B

GPS Coordinates for water sources utilized

Source Description	Latitude			Longitude		
	Deg °	Min '	Sec "	Deg °	Min '	Sec "
Trigger	65	51	46	107	15	30
Rifle	65	52	22	107	17	57
Bullwinkle	65	51	36	107	17	44
Shadow	65	54	58	107	21	54
Lookout Hill #1	65	55	27	107	23	25
Lookout Hill #2	65	55	44	107	24	29
NZ	65	54	40	107	26	32
Camp water source	65	55	21	107	27	36

GPS Locations of areas of waste disposal

[illegible]